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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,192	12/21/2000	David G. Guillot	1082-020	5573

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JOSEPH A. WALKOWSKI  
TRASKBRITT, PC  
P.O. BOX 2550  
SALT LAKE CITY, UT 84110

EXAMINER

LEE, EDMUND H

ART UNIT PAPER NUMBER

1732

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/747,192

Applicant(s)

GUILLOT, DAVID G.

Examiner

EDMUND H. LEE

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6, 7 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6, 7 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/8/03
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for shaping the insulation into a sheet prior to insulating the rocket motor case with the sheet of insulation, does not reasonably provide enablement for shaping the insulation into at least one sheet and insulating the rocket motor case with the at least one sheet of insulation. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to perform the invention commensurate in scope with these claims. The instant specification only discloses making the insulation into a sheet and then using that sheet to insulate the rocket motor case. The breadth of the claim is not supported by the instant specification.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Bourdoncle et al (USPN 5840227). Bourdoncle et al teach the claimed process as evident at col 4, lns 15-25; col 4, ln 49; col 5, lns 35-40; and figs 1-2h. It should be mentioned that figs 2e and 2g of Bourdoncle et al teach shaping the insulation into at least one sheet. A sheet of material within cylindrical and conical form is within the metes and bounds of the instant claim.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bourdoncle et al (USPN 5840227) in view of the admitted prior art as set forth on pg 8, lns 23-24 or Harvey et al (USPN 6606852). In regard to claim 2, Bourdoncle et al teach the basic claimed process including a method of insulating a case of a rocket loaded with a solid propellant (col 4, lns 15-25; col 4, ln 49; col 5, lns 35-40; and figs 1-2h); preparing insulation from a composition comprising a crosslinkable elastomer base and carbon fibers, the composition including a liquid elastomer base in a sufficient concentration to permit the carbon fibers to be dispersed into the composition by mixing under substantially solvent-free conditions (col 4, lns 15-25; col 4, ln 49; col 5, lns 35-40; and figs 1-2h); and curing the composition to form the insulation and insulating the case of the rocket motor with the insulation (col 4, lns 15-25; col 4, ln 49; col 5, lns 35-40; and figs 1-2h). Bourdoncle et al, however, does not teach using a crosslinkable EPDM terpolymer as the crosslinkable liquid elastomer base. Both the admitted prior art and Harvey et al teach the well-known use of liquid EPDM (e.g., TRILENE 67A) in the rocket motor insulation art. Bourdoncle et al, and the admitted prior art or Harvey et al are combinable because they are analogous with respect to insulation for rocket motors. Thus, it would have been obvious to one of ordinary skill in the art at the time

the invention was made to use the crosslinkable liquid EPDM terpolymer of the admitted prior art or Harvey et al as the crosslinkable polymer of Bourdoncle et al in order to produce a durable and effective insulation layer. In regard to claim 3, Bourdoncle et al teach applying the insulation to an interior surface of the case and interposing the insulation between the interior surface and the solid propellant (figs 1-2h). In regard to claim 7, Bourdoncle et al teach mixing the elastomer base with the carbon fibers in a mixer having two helical blades (col 5, lns 40-46)--as a note, this constitutes mixing the composition in a vertical-blade mixer or sigma-blade mixer. In regard to claim 6, Bourdoncle et al teach using an elastomer base that is in a liquid state (col 4, lns 15-25; col 4, ln 49; col 5, lns 35-40; and figs 1-2h). Both the admitted prior art and Harvey et al teach the well-known use of liquid EPDM terpolymer (e.g., TRILENE 67A) in the rocket motor insulation art. Bourdoncle et al, and the admitted prior art or Harvey et al are combinable because they are analogous with respect to insulation for rocket motors. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the crosslinkable liquid EPDM terpolymer of the admitted prior art or Harvey et al as the crosslinkable polymer of Bourdoncle et al in order to produce a durable and effective insulation layer. The use of the well-known liquid EPDM terpolymer as the elastomer base of Bourdoncle et al constitutes more than 90 weight percent of the elastomer base being a crosslinkable liquid EPDM terpolymer. In regard to claim 7, Bourdoncle et al teach mixing the elastomer base with the carbon fibers in a mixer having two helical blades (col 5, lns 40-46). The use of a vertical-blade mixer or sigma-blade mixer is a mere obvious matter of choice dependent on the

equipment availability and of little patentable consequence to the claimed process since it is not a manipulative feature or step of the claimed process. Further, the claimed mixers are well-known in the molding art for their efficiency. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use either of the claimed mixers in the process of Bourdoncle et al in order to efficient mix the fibers and elastomer base of Bourdoncle et al.

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bourdoncle et al (USPN 5840227) in view of the admitted prior art as set forth on pg 8, In s 23-24 or Harvey et al (USPN 6606852) as applied to claim 2 above and further in view of Herring (USPN 4507165). The above combined teachings of Bourdoncle et al and the admitted prior art or Harvey et al are incorporated hereinafter. Bourdoncle et al do not teach shaping the insulation into a sheet prior to insulating the case. Herring teaches calendaring a composition of rocket motor case insulation into a sheet in order to insulate a motor case by wrapping a bladder mandrel with the insulation sheet (col 4, In 58-col 5, In 5). Bourdoncle et al and Herring are combinable because they are analogous with respect to molding rocket motor case insulation. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to shape the insulation of Bourdoncle et al into a sheet as taught by Herring in order to allow for the insulation of Bourdoncle et al to be used in various methods of forming insulated rocket motor cases.

7. Applicant's arguments filed 12/8/03 have been fully considered but they are not persuasive. In regard to claim 1, Applicant argues that the insulation of Bourdoncle et al

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cannot be provided as a sheet because the viscosity of the elastomer base is too low. Even though Bourdoncle et al teach that the base is too low to be formed into a sheet prior to applying the insulation to the case, the breadth of the instant claim does not prevent a step of forming a sheet of insulation simultaneously with a step of insulating. In regard to claims 2,3,6, and 7, Applicant argues that Bourdoncle et al do not teach a sufficient concentration of liquid EPDM. Bourdoncle et al teach using an elastomer base that is completely in liquid form as evident by the fact that the base cannot be formed into a sheet. The aspect of using liquid EPDM as the base is made by obvious by the admitted prior art or Harvey et al. Applicant is reminded that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDMUND H. LEE whose telephone number is 571.272.1204. The examiner can normally be reached on MONDAY-THURSDAY FROM 9AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 571.272.1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EHL

EDMUND H. LEE  
Primary Examiner  
Art Unit 1732

  
3/8/04